

Claims

1. A medical device for insertion into an organism, comprising:
 - a main structure; and
 - a substantially rigid porous portion on the main structure.
2. A medical device according to claim 1, wherein the main structure comprises a stent.
3. A medical device according to claim 1, wherein the porous portion includes a porous metal.
4. A medical device according to claim 1, wherein the porous portion is at least one of attached to or integrated into the main structure.
5. A medical device according to claim 1, wherein the porous portion is attached to the main structure by an adhesion layer.
6. A medical device according to claim 1, further comprising an elution material, wherein the elution material is at least partially retained within the porous portion.
7. A medical device according to claim 6, wherein the elution material is a drug.
8. A medical device according to claim 1, wherein the porous portion has defined therein pores having different sizes.
9. A medical device according to claim 1, wherein:
 - the main structure includes stainless steel; and
 - the porous portion includes gold.

10. A medical device according to claim 9, further comprising an adhesion layer including chromium between the main structure and the porous portion.

11. A stent according to claim 1, wherein the stent comprises:

a stent structure; and

a porous portion on the stent structure, wherein the surface comprises a surface of the porous portion.

12. A stent according to claim 11, wherein the porous portion is at least one of attached to or integrated into the stent structure.

13. A stent, comprising:

a stent structure; and

a porous portion on the stent structure, wherein the porous portion includes a porous metal.

14. A stent according to claim 13, wherein porous portion is at least one of attached to or integrated into the stent structure.

15. A stent according to claim 13, wherein the porous portion is attached to the stent structure by an adhesion layer.

16. A stent according to claim 13, further comprising an elution material, wherein the elution material is at least partially retained within the porous portion.

17. A stent according to claim 16, wherein the elution material is a drug.

18. A stent according to claim 13, wherein the porous portion has defined therein pores having different sizes.
19. A stent according to claim 13, wherein:
 - the stent structure includes stainless steel; and
 - the porous portion includes gold.
20. A stent according to claim 19, further comprising an adhesion layer including chromium between the main structure and the porous portion.
21. A stent, comprising:
 - a stent structure; and
 - a porous portion on the stent structure, wherein the porous portion includes porous gold.
22. A stent according to claim 21, wherein porous portion is at least one of attached to or integrated into the stent structure.
23. A stent according to claim 21, wherein the porous portion is attached to the stent structure by an adhesion layer.
24. A stent according to claim 21, further comprising an elution material, wherein the elution material is at least partially retained within the porous portion.
25. A stent according to claim 24, wherein the elution material is a drug.
26. A stent according to claim 21, wherein the porous portion has defined therein pores having different sizes.
27. A stent according to claim 21, wherein:

the stent structure includes stainless steel; and

the porous portion is formed from an alloy including gold and silver.

28. A stent according to claim 27, further comprising an adhesion layer including chromium between the main structure and the porous portion.

29. A method for making a medical device, comprising:

providing a medical device structure; and

forming multiple pores in a surface of the medical device structure.

30. A method according to claim 29, wherein forming the multiple pores includes doping the surface of the medical device.

31. A method according to claim 29, wherein forming the multiple pores includes:

depositing a pore formation material on the medical device structure; and

forming the multiple pores in the pore formation material.

32. A method according to claim 31, wherein forming the multiple pores further comprises depositing an adhesion layer between the medical device structure and the pore formation material.

33. A method according to claim 29, wherein forming the multiple pores includes leaching a component of the surface.

34. A method according to claim 29, wherein forming the multiple pores includes annealing the medical device.

35. A method according to claim 29, further comprising impregnating the pores with an elution material.
36. A method according to claim 35, wherein the elution material comprises a drug.
37. A method of making a stent having a porous surface, comprising:
 - providing a stent structure;
 - providing a surface on the stent structure including an alloy;
 - leaching a component of the alloy to form pores in the alloy;
 - annealing the stent.
38. A method of making a stent according to claim 37, wherein the alloy includes silver and gold.
39. A method of making a stent according to claim 38, further comprising adding an adhesion layer between the stent structure and the surface including the alloy, wherein the adhesion layer includes chromium.
40. A method of making a stent according to claim 38, wherein leaching the component of the alloy includes exposing the silver and gold to a nitric acid.
41. A method of making a stent according to claim 37, wherein the alloy includes platinum and copper.
42. A method of making a stent according to claim 41, wherein leaching the component of the alloy includes exposing the platinum and copper to a nitric acid.

43. A method of making a stent according to claim 37, wherein the alloy includes stainless steel.
44. A method of making a stent according to claim 43, wherein leaching the component of the alloy includes exposing the stainless steel to a sodium hydroxide.
45. A method of making a stent according to claim 37, further comprising impregnating the multiple pores with an elution material.
46. A method of making a stent according to claim 45, wherein the elution material comprises a drug.